Practical no .1

```
def fibonacci_iterative(n:int):
    if n == 1:
        return 0
    elif n == 2:
        return 1
    else:
        dp = [0] * n
        dp[0] = 0
        dp[1] = 1
        for i in range(2,n):
            dp[i] = dp[i-1] + dp[i-2]
        return dp[n-1]


def fibonacci_recursive(n):
    cache = {
        1:0,
        2:1
    }
    return helper(n,cache)


def helper(n:int,cache):
    if n in cache:
        return cache[n]
    else:
        return helper(n-1,cache) + helper(n-2,cache)


n = int(input("Enter value of n(nth Fibonacci number): "))
print(f"Fibonacci Number(Iterative): {fibonacci_iterative(n)}")
print(f"Fibonacci Number(Recursive): {fibonacci_recursive(n)}")
```

OUTPUT:-

Enter value of n(nth Fibonacci number): 8

Fibonacci Number(Iterative): 13

Fibonacci Number(Recursive): 13